DISTRICT OF COLUMBIA BUILDING CODE SUPPLEMENT OF 2003 DCMR 12C ELECTRIC CODE

CHAPTER 1C DEFINITIONS

ARTICLE E-100 GENERAL

Add new Section E-100-1 to read to as follows:

E-100-1 D.C. Electrical Code. The National Fire Protection Association National Electrical Code/1996 as amended by the D.C. Electrical Code Supplement 2002 shall constitute the D.C. Electrical Code/ 2002, hereinafter referred to as the "Electrical Code".

Repeal. Article 90 of the National Electrical Code/1996 is deleted except for 90-5.

1. Mandatory Rules and Explanatory Material. Mandatory rules of the National Electrical Code are characterized by the use of the word "shall." Explanatory material in the form of Fine Print Notes (FPN) is not mandatory.

   (b) Scope. These regulations shall control the design, installation, maintenance, alteration, conversion, changing, repairing, removal, and inspection of electrical conductors, equipment, and systems in buildings or structures and on private or public space within the District of Columbia, for the transmission, distribution and use of electrical energy for power, heat, light, radio, television, signaling, and for other purposes.

Exceptions:

1. Installations of communications equipment under the exclusive control of communications utilities located outdoors or in building spaces used exclusively for such installations are not subject to this code.

   Electrical installations, including associated lighting, under the exclusive control of electrical utilities for the purpose of communications, metering, generation, control, transformation, transmission, or distribution of electric, when such installations are located in buildings used exclusively by utilities for such purposes, or outdoors on property owned or leased by the utility, or on or along public highways, streets, roads, and other public right-of-ways, or outdoors on private property by established rights such as easements, such installations are not subject to this code.

(c) Intent. The Electrical Code shall be construed to secure its expressed intent, which is the practical safeguarding of persons and property from hazards arising from the use of electricity, and is not intended as a design specification nor an instruction manual for untrained persons.

(d) Permits required for electrical work. Power limited wiring: Electrical permit is required for the installation of fire protective signaling systems and other power limited wiring, telephone, and data.

1. Electrical installation permits not required: No permit shall be required to repair or replace portable electrical equipment.

ARTICLEE-110 REQUIREMENTS FOR ELECTRICAL INSTALLATIONS

Add new Section E-110-23 to read as follows:

E-110-23 Clearances. The following clearances shall be maintained:

(a) Gas Meters. Electrical equipment shall be so set that:

Parts of electrical equipment that in ordinary operation produce arcs, sparks, flames or molten metal shall be located as follows:

1. Not less than 3 feet from any part of a gas meter located indoors, unless the electrical equipment is designed, rated or protected in accordance with the requirements of Article E-501 for Class I, Division 2 locations.

2. Not less than 1 foot from any part of a gas meter located outdoors.

3. Not less than 2 feet from the outlet of a gas regulator vent.

In accordance with the requirements of the gas utility.

CHAPTER 2C WIRING AND PROTECTION

ARTICLE E-210 BRANCH CIRCUITS

A. General Provisions

Add new Section E-210-5(c) to read to as follows:

E-210-5 Color Code for Branch Circuits.

Three Phase, Four Wire Circuits.

(1) For 208Y/120 Volts. Where practicable, three phase, four wire circuits operating at nominal 208Y/120 voltage shall be color coded as follows: Conductors for A, B and C phases and neutral shall be color coded black, red, blue and white respectively.

(2) For 460Y/265 Volts. Where practicable, three phase, four wire circuits operating at nominal 460Y/265 voltage shall be color coded as follows: Conductors for A, B and C phases and neutral shall be color coded brown, orange, yellow and white/gray respectively.

Add new Section E-210-8(a) (8) to read to as follows:

E-210-8 Ground-Fault Circuit-Interrupter Projection for Personnel.

(a) Dwelling units.

(8) Landscape and lamp post lighting at 8 feet (2.44 m) above grade or lower and operating at nominal 120 volts to ground shall have ground-fault circuit-interrupter protection on any circuitry extending from the interior of the dwelling.

ARTICLE E-225 OUTSIDE BRANCH CIRCUITS AND FEEDERS

A. General

Delete Section E-225-25 and substitute the following:

E-225-25 Outside Lamps

(a) General

(1) Scope. The provisions of this section shall apply to the installation and maintenance of outside lamps, fixtures, and standards located on or over private or public space and shall be amendatory to and in addition to those of other sections of the code.

(2) Permits. No private lamp post or lamp shall be erected or placed in public space or in any public street, avenue, alley, or road of the District of Columbia, nor beyond the inner edge of a sidewalk, unless authorized by a special permit in each case to be obtained from the Permit Branch previous to the erection of the lamp post or lamp; such permit to be conditioned on the right of the Director of Public Works to require such lamp post or lamp to be removed whenever he deems such removal necessary or advisable. The application for such permit must be accompanied by a written agreement signed by the owner or occupant, or both, of the premises in front of which it is desired to erect such lamp post or lamp, agreeing to remove the same when called upon by the Director of Public Works to do so.

(3) Public Space Restrictions. Private lamps if placed on or over public space shall:

(a) Be mounted not less than 8 feet (2.44 m) above a public sidewalk or grade when of 100 watts or less.

(b) Be mounted not less than 14 feet (4.27m) above a public sidewalk or grade when over 100 watts, whether attached to a building or on a post.

(c) Be enclosed within a fixture or structure, except that outside bracket lights on porches, etc., with 60 watt lamps or less need not be enclosed and are permitted to be mounted less than 8 feet (2.44 m) above grade.

(4) Type of Standard. Private lamp posts erected in public space not more than 3 feet 6 inches (1.07 m) beyond the building line shall not exceed 18 inches (457 mm) in diameter, and shall be of an approved single-light type.

(5) Wattage Limitations. The wattage of private lamps, other than spot and floodlights, in public space shall not exceed that established for the public street lamps for the vicinity. The mounting heights shall be not less than that of public street lamps of similar wattage. For residential zones, see Section E-225-25 (b) (1).

(6) Enclosing Globe. Every private lamp erected in public space shall be enclosed in some form of ground, opalescent, or alabaster glass of sufficient density to remove the glare from the light source. This shall not be construed to apply to lamps less than 25 watts in capacity, used as borders for outline lighting, or illuminated signs, when placed not less than 8 feet (2.44 m) above the sidewalk.

(7) Colored Lights. Colored lamps, colored globes on private lamps, or colored gas-tube systems shall not be used when placed more than 3 feet 6 inches (1.07 m) beyond the building line.

(8) Light Rays Across Streets. Lamps or clusters of lamps shall be so installed that the light beams shall not be directed across public sidewalks, streets, alleys or roadways, or against private property zoned or used as residential, except that spot or floodlights are

permitted to be installed so as to direct their beams into public space to serve police purposes on special approval of the Director of Public Works.

(9) Projections. Private lamps or any part thereof shall not be installed in public space more than 3 feet 6 inches (1.07 m) beyond the building restriction lines, except for temporary barricade lights. Private lamps are permitted to be installed in commercial zones farther than 3 feet 6 inches (1.07 m) beyond the building line when, in the opinion of the Director of Public Works, such private lamps are desirable to illuminate (1) public or monumental buildings, monuments and other similar structures, and (2) shrubbery, trees and similar landscape architecture, provided that the illumination is in the public interest, the direct rays are confined to premises served, and a nuisance is not created. Such private lamps are permitted to be mounted less than 8 feet (2.44 m) above the ground.

(10) Spot and Floodlights. Spot and floodlights shall conform to the following:

(a) They shall not be erected on or over public space more than 3 feet 6 inches (1.07 m) from the building line.

(b) If projecting beyond the building line, they shall not be erected within 22 feet (6.71 m) of an adjoining premises which, on the same street frontage, is zoned or used for residential purposes, except when effectively shielded so direct rays will not fall on the residential area.

(c) They shall not be erected on standards beyond the inner edge of a public sidewalk.

(d) Spot and floodlight standards erected in public space shall not exceed 20 feet (6.1 m) in height.

(e) Spot or floodlights placed on or near the ground to illuminate the face of a building or structure, or shrubbery, trees and similar landscape architecture, shall be so screened or shielded that the reflector projecting the light will not be visible from the street or sidewalk. Metal enclosures shall be grounded in accordance with NEC Article 250.

(b) Residential Zone Restrictions

(1) Public Space Restrictions in Residential Zones. Private lamps when placed on or over public apace in a residential zone shall not exceed 100 watts.

(2) Spot and Floodlights in Residential Zones. Spot and floodlights in residential zones shall not exceed 250 watts.

Exception: Wattage is permitted to be increased to meet special conditions when approved by the Director of Public Works. Provided the light beams are directed only on premises where located.

ARTICLE E-230 SERVICES

A. General

Add new Section E-230-2(a) exception 8 to read as follows:

E-230-2. Number of Services:

Number

Exception No. 8: Small buildings accessory to the main building and located on the same lot with the main building are permitted to be served from the same service as the main building. In such case a covenant will not be required.

Change Section E-230-3 to read to as follows:

E-230-3 Services From One Building Through Another and Covenants. No overhead service, underground service, nor service from a private plant shall supply one building through another except where there is furnished a Master Service or Master Metering Covenant. No service shall cross property not included in the covenant. When such master service is requested, a building plat showing the location of all buildings and feeders connecting them shall be attached to one copy of the proposed covenant. Any through service connection or any wiring interconnection between buildings shall be discontinued or removed on the lapse of any condition upon which the approval is based. Such Master Service Metering Covenants are permitted to be approved in the following cases:

(a) Building on the Same Lot.

(1) If all the buildings are of a single ownership, management, or control.

(2) If all of the buildings are of a single ownership, but different management or control. The provisions of Section E-230-3 (a) (3) shall apply as to accessibility and protection of through service conductors.

(3) If the buildings are used only for commercial or industrial purposes by different tenants, but are of single ownership or lease, more than one building is permitted to be supplied by the same service provided that if such through service conductors are protected and controlled or metered in the first building, the device for such purposes shall be confined to a compartment readily accessible to every tenant of the building serviced, and if not so protected and controlled, the through service conductors, which run within the building, shall be carried in conduit or duct placed beneath a building and covered with not less than 2 inches (51 mm) of concrete or be embedded in not less than 2 inches (51mm) of solid masonry in a wall or other structure.

(b) Buildings on Different Lots in the Same Square.

(1) If all of the buildings are under single ownership and management or control.

(2) If all of the buildings are of a single ownership, but different management or control. The provisions of Section E-230-3 (a) (3) shall apply as to accessibility and protection of through service conductors.

(3) If the buildings are in separate ownership but single management, lease, or control, and occupied as a single project. All owners shall be parties to the covenant, and separate services shall be provided when the single project control no longer operates.

D. Services Entrance Conductors

Add new Section E-230-43 to read to as follows:

E-230-43

(a) Length of conductors. Service raceways or cables must extend from the point of attachment on the building of the service drop downward, and into the service equipment, except that: If a service raceway or cable is exposed on the exterior of a building, it is permitted to run the service raceway or cable horizontally for a distance not exceeding 25 feet (7.62 m). The total length of service raceway or cables on or in a building, in any case, shall not exceed 50 feet (15.24 m). Unnecessary runs of service raceway or cable must be avoided by placing the service equipment as close to the incoming conductors as is practical.

(b) Length of conductors within a building. The length of a service connection within a building from the point of service entrance to the terminals of one or each of a group of service equipment, shall be as short as practicable and in general shall not exceed 15 feet (4.57 m) for new buildings or 20 feet (6.1 m) for old buildings where space limitations make a shorter installation impracticable. Commercial buildings shall be permitted greater lengths of unprotected service conductors when fully confined within a service equipment room having at least a two-hour fire rating and the room is accessible to qualified persons only.

(c) In public space. A service raceway or service cable shall not be located in public space except on the face of a building wall that is erected on the building line. It shall not be located less than 15 feet (4.57 m) above grade on a wall abutting an alley nor through or in a public sidewalk.

F. Service Equipment – Disconnecting Means

Change Section E-230-72(a) to read to as follows:

E-230-72 Grouping of Disconnects

(a) General. Two or More Service Disconnects. Service conductors from different distribution system entering at the same or adjacent location may supply a total of not more than six disconnects. Service connections located at different and remote locations may supply a total of not more than six disconnects at each location. Such remote service locations shall have a remote control switch or contactor adjacent to the new service location nearest the main entrance to the building so that all power in the building may be shut off at one location in case of emergency. Disconnects serving emergency lighting and fire alarm appliances, fire pumps, or other emergency equipment shall not count in the six disconnects permitted.

ARTICLE E-240 OVERCURRENT PROTECTION

B. Location

Add new Section E-240-24(f) to read as follows:

E-240-24 Location In or On Premises

(f) Non-Permissible locations. Overcurrent devices other than supplementing overcurrent devices shall not be located on a ceiling, in a shelf, in a locker room, storage area, janitor's closet, or clothes closet, at the back of a counter space or behind an appliance or equipment installed close to the wall.

C. Enclosures

Add new Section E-240-34 to read as follows:

240-34 Circuit Directory. Enclosures of overcurrent devices shall have a circuit directory installed on the inside of the enclosure, in the appropriate space when so provided, otherwise in a location most suitable and practicable. The circuits shall be labeled properly and legibly as to load served.

CHAPTER 3C WIRING METHODS AND MATERIALS

ARTICLE E-300 WIRING METHODS

A. General Requirements

Add new subsection E-300-7(c) to read as follows:

Cold Storage and Refrigerator Rooms. Wiring in cold storage and refrigerator rooms shall conform to the general provisions of NEC Article 300, and the following:

(1) Approved weather proof threaded or threadless fittings shall be used.
NOTE: Knock-out boxes are not permitted.

(2) Where wiring is above 8 feet (2.44 m) from the floor, approved open-work construction with weatherproof fittings, etc., is permitted to be used.

(3) All joints and splices shall be painted with approved weatherproof paint after installation.

(4) Fixtures, receptacles, switches, etc. shall be of an approved weatherproof type.

Add new subsection E-300-24 to read as follows:

E-300-24 Service conductors. Incoming service and load conductors shall not be installed in the same conduit or trough.

ARTICLE E-310 CONDUCTORS FOR GENERAL WIRING

Delete subsection E-310.14 in its entirety and substitute the following:
E-310.14 Aluminum Conductor Material. Aluminum conductors shall not be permitted except as follows:

(a) Stranded aluminum conductors No. 2 AWG through 1000 kcmil shall be made of an AA-8000 series electrical grade aluminum alloy conductor material.

(b) With anti-oxidizing protection agent on all terminations and exposed aluminum.

(c) With terminations torqued or high pressed to manufacturer required specifications.

ARTICLE E-384 SWITCHBOARDS AND PANEL BOARDS

Add new subsection E-384-37 to read as follows:

E-384-37 Switchboards of 1000 Amperes or Larger. It shall be the responsibility of the owner of a Switchboard having a capacity of 1000 amperes or larger, or his responsible agent, to have a

licensed master electrician disconnect said equipment once every three years or less to perform prescribed preventive maintenance. Preventive maintenance shall consist of, but not be limited to:

(a) Vacuum entire interior of switchboard.

(b) Clean bus and contacts with suitable nonconductive solvents.

(c) Lubricate all moving mechanisms.

(d) Check all conductors for abrasions and replace them if found to be in poor condition.

(e) Torque bus and conductor connections to manufacturers' recommended specifications.

(f) Check calibration of overcurrent trip units and protective devices.

(g) Evaluate short circuit protection. If found to be inadequate for safely clearing the maximum fault current available at the site, upgrade protection accordingly within twelve months.

(h) Megger board to manufacturers' specifications before re-energizing.

(i) Replace worn, damaged, or deteriorating components.

(j) Submit report of preventive maintenance performed to D.C. Electrical Inspection Branch within thirty days.

CHAPTER 6C WALL CONSTRUCTION

ARTICLE E-680 SWIMMING POOLS, FOUNTAINS AND SIMILAR INSTALLATIONS

A. General

Add new subsection E-680-6 (b) (4) to read as follows:

E-680-6 Receptacles, Lighting Fixtures, Lighting Outlets, Switching Devices and Ceiling Fans.

(b) Lighting Fixtures, Lighting Outlets and Ceiling Fans.

(4) Lighting shall be provided at all swimming pools intended for use at night.

CHAPTER 7C SPECIAL CONDITIONS

ARTICLE E-700 EMERGENCY SYSTEMS

B. Circuit Wiring

Change subsection E-700-9(c) 1 to read as follows:

E-700-9 (c) Fire Protection.

(1) Feeder circuits and all risers for fire system wiring shall be installed in metallic conduit.

Add new subection E-700-9(d) to read as follows:

E-700-9 (d) Conductors for Emergency Lights Prohibited in Shafts, Ducts, Etc. Conduits, cables, or conductors supplying exit or emergency lights shall not be installed in any flue, heating or ventilating duct, trash chute, garbage chute, laundry chute, dumbwaiter, lift, elevator or similar shaft, nor in any trash room.

ARTICLE E-760 FIRE ALARM SYSTEMS

B. Nonpower-Limited Fire ALARM (NPLFA) Circuits

Change subsection E-760-25 to read as follows:

E-760-25 NPLFA Circuit Wiring Methods. Wiring shall be installed in rigid metal conduit, electrical metallic tubing, mineral-insulated metal-sheathed cable, flexible metal conduit containing teflon-jacketed conductors, or metal-clad cable listed for use in plenums and other air-handling spaces. Risers shall be minimum 3/4-inch rigid metal conduit or electrical metallic tubing. Where risers are exposed, compression fittings shall be used.